

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A ~~polishing slurry composition for polishing method of polishing a semiconductor substrate, which comprises:~~

a) providing a semiconductor substrate having at least one of a metal film, a shallow trench isolation film, or a dielectric film; ~~said~~

b) providing a slurry composition comprising: a metal oxide particle, at least one a first water-soluble organic polymer having a first average molecular weight, a second water-soluble organic polymer having a second average molecular weight that is between 15% to 95% of the first molecular weight, and water, wherein said polishing slurry composition is disposed between the substrate and a polishing pad; and

c) holding a portion of the pad and the substrate in a position to create a polishing pressure and moving at least one of the polishing pad or substrate to obtain a relative movement rate between the polishing pad and the substrate, thereby polishing a semiconductor substrate; ~~said slurry composition method~~ characterized in that when the substrate is polished by contacting the substrate with the slurry composition disposed between the substrate and a polishing pad moving relative to the substrate, ~~it exhibits a peak when measuring the relationship between the~~ substrate removal rate compared with the ~~relative movement of the~~ pad relative to the substrate while maintaining a constant polishing pressure between the polishing pad and the substrate exhibits a maximum.

2. (Currently Amended) The method of polishing slurry composition according to claim 1, wherein said constant polishing pressure is from 1 psi (6.9kPa) to 9 psi (62.1kPa) and said polishing pad is provided on a rotatable platen and wherein the peak in the substrate removal rate versus polishing pad-substrate movement rate curve peak is found within a pad rotation rate of ~~from 12rpm to 150rpm~~ 12 revolutions per minute to 150 revolutions per minute.

3. (Currently Amended) The method of polishing slurry composition according to claim 1 or 2, wherein the slurry composition comprises a third plurality of water-soluble organic polymer polymers, wherein the third water-soluble organic polymer has polymers each have an average molecular weight different than the first and second average molecular weights, ~~and wherein at~~

~~least one lighter water-soluble organic polymer has an average molecular weight that is between 15% to 95% of the average molecular weight of another, heavier, water-soluble organic polymer.~~

4. (Currently Amended) The method of polishing ~~slurry composition~~ according to claim 3 1, wherein the weight ratio of the heavier water-soluble organic polymer to the lighter water-soluble organic polymer is from 95:5 to 5:95.

5. (Currently Amended) The method of polishing ~~slurry composition~~ according to ~~any one of claims 1 to 4~~ claim 1, wherein at least one of said water-soluble organic polymer(s) is a polyacrylic acid salt.

6. (Currently Amended) The method of polishing ~~slurry composition~~ according to ~~any one of claims 1 to 5~~ claim 1, wherein at least one of said water-soluble organic polymer(s) is a polyvinyl alcohol.

7. (Currently Amended) The method of polishing ~~slurry composition~~ according to ~~any one of claims 1 to 6~~ claim 1, wherein at least one of said water-soluble organic polymer(s) is a polyethylene oxide, a polyethylene glycol, an alginic acid, guar gum, a carboxymethylcellulose, a hydroxymethylcellulose, or salts thereof, or combinations thereof

8. (Currently Amended) The method of polishing ~~slurry composition~~ according to ~~any one of claims 1 to 7~~ claim 1, wherein the content of said water-soluble organic polymer(s) is 0.01 % by weight to 3% by weight based on the total amount of the composition.

9. (Currently Amended) The method of polishing ~~slurry composition~~ according to ~~any one of claims 1 to 7~~ claim 1, wherein the content of said water-soluble organic polymer(s) is 0.05 % by weight to 1.5% by weight based on the total amount of the composition.

10. (Currently Amended) The method of polishing ~~slurry composition~~ according to ~~any one of claims 1 to 9~~ claim 1, wherein said metal oxide particle comprises ceria having an average particle diameter, wherein the average particle diameter of said ceria is 0.03 μ m to 0.5 μ m, and the

solid content of said metal oxide particles in the slurry composition is 0.1% by weight to 20% by weight based on the total amount of the composition.

11. (Currently Amended) The method of polishing ~~slurry composition~~ according to ~~any one of claims 1 to 9~~ claim 1, wherein said metal oxide particle comprises silica having an average particle diameter, wherein the average particle diameter of said silica is 0.03 μ m to 0.5 μ m, and the solid content of said metal oxide particles in the slurry composition is 0.1% by weight to 20% by weight based on the total amount of the composition.

12. (Currently Amended) The method of polishing ~~slurry composition~~ according to ~~any one of claims 1 to 9~~ claim 1, wherein said metal oxide particle comprises alumina having an average particle diameter, wherein the average particle diameter of said alumina is 0.03 μ m to 0.5 μ m, and the solid content of said metal oxide particles in the slurry composition is 0.1% by weight to 20% by weight based on the total amount of the composition.

13. (Cancelled)

14. (Currently Amended) The method of polishing a semiconductor substrate of claim 1 ~~13~~, wherein the relative movement rate between the polishing pad and the substrate is within 30% of the relative movement rate that provides the ~~peak~~ maximum substrate removal rate at said polishing pressure.

15. (Currently Amended) The method of polishing a semiconductor substrate of claim 1 ~~13~~, wherein the relative movement rate between the polishing pad and the substrate is within 15% of the relative movement rate that provides the ~~peak~~ maximum substrate removal rate at said polishing pressure.

16. (Currently Amended) The method of polishing a semiconductor substrate of claim 1 ~~13~~, wherein the relative movement rate between the polishing pad and the substrate is the relative movement rate that provides the ~~peak~~ maximum substrate removal rate at said polishing pressure.

17. (Currently Amended) The method of polishing a semiconductor substrate of claim ~~1~~ 13, wherein the relative movement rate between the polishing pad and the substrate varies, and wherein an average relative movement rate between the polishing pad and the substrate is within 30% of the relative movement rate that provides the ~~peak~~ maximum substrate removal rate at said polishing pressure.

18. (Currently Amended) The method of polishing a semiconductor substrate of claim ~~1~~ 13, wherein the relative movement rate between the polishing pad and the substrate varies, and wherein an average relative movement rate between the polishing pad and the substrate is within 15% of the relative movement rate that provides the peak substrate removal rate at said polishing pressure.

19. (Currently Amended) The method of polishing a semiconductor substrate of ~~any of claims 13 to 18~~ claim 1, wherein the polishing step ~~comprising~~ comprises a first planarization step and a final polishing step, wherein a different polishing slurry compositions are ~~composition~~ according to any one of claims 1 to 12 is used in both the first planarization step and the final polishing step.

20. (Currently Amended) The method according to claim ~~1~~ 19, wherein the polishing step comprises a first planarization step and a final polishing step, and wherein the same polishing slurry composition is used in both the planarization step and the final polishing step.

21. (Currently Amended) The method according to ~~any of claims 19 or~~ claim ~~20~~, wherein the relative movement rate between the polishing pad and the substrate in the planarization step is higher than the relative movement rate between the polishing pad and the substrate in the final polishing step.

22. (Currently Amended) The method according to ~~any of claims 19 to 21~~ claim 20, wherein the polishing pressure in said planarization step is lower than the polishing pressure in said final polishing step, and wherein in both the planarization step and the final polishing step the relative movement rate between the polishing pad and the substrate is within 30% of the relative movement rate that provides the peak substrate removal rate at the polishing pressure.

23. (currently amended) The method according to ~~any of claims 19 to 21~~, claim 20, wherein the polishing pressure in said planarization step is lower than the polishing pressure in said final polishing step, and wherein in both the planarization step and the final polishing step the relative movement rate between the polishing pad and the substrate is within 15% of the relative movement rate that provides the peak substrate removal rate at the polishing pressure.

24. (Cancelled)

25. (Currently Amended) The method according to ~~any of claims 19 to 23~~, claim 19, wherein the polishing pressure in said planarization step is lower than the polishing pressure in said final polishing step and wherein the relative movement rate between the polishing pad and the substrate in the planarization step is higher than the relative movement rate between the polishing pad and the substrate in the final polishing step.

26. (Cancelled)

27. (New) The method of claim 1 wherein the second average molecular weight of the second water-soluble organic polymer is between 30% to 60% of the first molecular weight.

28. (New) A method of polishing a semiconductor substrate, which comprises:

- a) providing a semiconductor substrate having a dielectric film;
- b) providing a slurry composition comprising: abrasive ceria particles, a first water-soluble organic polymer having a first average molecular weight between 26,000 and 50,000, a second water-soluble organic polymer having a second average molecular weight that is between 25% to 75% of the first molecular weight, and water, wherein said polishing slurry composition is disposed between the substrate and a polishing pad; and
- c) holding a portion of the pad and the substrate in a position to create a polishing pressure and moving at least one of the polishing pad or substrate to obtain a relative movement rate between the polishing pad and the substrate, thereby polishing a semiconductor substrate; wherein when the substrate is polished by contacting the substrate with the slurry composition disposed between the substrate and a polishing pad moving relative to the substrate, the relationship between the substrate removal rate compared with the movement of the pad relative

to the substrate while maintaining a constant polishing pressure between the polishing pad and the substrate exhibits a maximum.

29. (New) The method of claim 28, wherein at least one of the first and second water soluble organic polymers is an ammonium polyacrylate, wherein the first average molecular weight is between 27,000 and 40,000, and the second average molecular weight is between 10,000 and 20,000.

30. (New) The method according to claim 28, wherein the relative movement rate between the polishing pad and the substrate is within 15% of the relative movement rate that provides the maximum substrate removal rate at said polishing pressure.

31. (New) The method according to claim 28, wherein the dielectric film comprises TEOS material.

32. (New) The method according to claim 28, wherein the polishing step comprises a first planarization step and a final polishing step, and wherein the relative movement rate between the polishing pad and the substrate in the planarization step is higher than the relative movement rate between the polishing pad and the substrate in the final polishing step, the polishing pressure in said planarization step is lower than the polishing pressure in said final polishing step, and in both the planarization step and the final polishing step the relative movement rate between the polishing pad and the substrate is within 30% of the relative movement rate that provides the peak substrate removal rate at the polishing pressure.